

ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

Case Docket No. 023460.0000  
Date June 16, 2000

Sir:

Transmitted herewith for filing under 37 C.F.R. §1.53(b) is the patent application of:  
Inventor(s): Gerald W. INGRAM and Steve MANSFIELD

For: ENHANCED HYPERLINK

- ☒ Specification (26 pages)  
☒ 6 sheets of drawings  
☒ Declaration and Power of Attorney  
☒ Return Receipt Postcard  
☐ An Assignment of the invention to \_\_\_\_ with PTO-1595  
☐ Preliminary Amendment

A filing fee, calculated as shown below:

(Col. 1) (Col. 2)

FOR:	No. Filed	No. Extra
BASIC FEE		
TOTAL CLAIMS	21 - 20 =	1
INDEP CLAIMS	5- 3 =	2
<input checked="" type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED		

Small Entity

RATE	FEE
	\$380
x 9 =	\$9
x 39 =	\$78
+130 =	
TOTAL	\$467

Other Than A  
Small Entity

RATE	FEE
	\$760
x 18 =	0
x 78 =	0
+260 =	
TOTAL	

or

or

or

or


or

\*If the difference in Col. 1 is less than zero,  
enter "0" in Col. 2

Respectfully submitted,

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC

1050 Connecticut Avenue, N.W.  
Suite 600  
Washington, D. C. 20036-5339  
Tel: (202) 828-3466  
Fax: (202) 638-4810  
RJH/krb

  
By: Rustan J. Hill  
Reg. No. 37,351

Enclosures: Specification and Claims/Declaration/Small Entity Declaration  
Drawings (6 sheets)/Return Receipt Postcard

**SMALL ENTITY DECLARATION**APPLICANT OR PATENTEE I-LOR-ONESERIAL NO. -- ☐ PATENT NO. -- ATTORNEY'S DOCKET NO. 023460-00001☐ 1. FILED OR ISSUED --☒ 2. SUBMITTED HEREWITH --  
FOR ENHANCED HYPERLINK

(Insert Title)

I (we) hereby declare that I (we) am (are) entitled to the benefit of small entity status with respect to the above-identified application or patent for purposes of paying reduced fees under 35 U.S.C. §§41(a) and (b) to the U.S. Patent and Trademark Office.

☐ A. **INDEPENDENT INVENTOR**

I (we) qualify as (an) independent inventor(s) as defined in 37 C.F.R. §1.9(c).

☐ B. **INDIVIDUAL NON-INVENTOR**

I (we) would qualify as (an) independent inventor(s) as defined in 37 C.F.R. §1.9(c) if I (we) had made the invention.

☒ C. **SMALL BUSINESS CONCERN**

I am ☐ THE OWNER ☒ AN OFFICIAL of the small business concern identified below and am empowered to act on behalf of the concern. The concern qualifies under 37 C.F.R. §1.9(d) and 13 C.F.R. §121.3-18. Rights under contract or law have been conveyed to and remain with the concern and are exclusive unless a checkmark is placed here ☐. All other rights belong to small entities as defined in 37 C.F.R. §1.9.

☐ D. **NON-PROFIT ORGANIZATION**

I am an official empowered to act on behalf of the non-profit organization identified below. The organization qualifies under 37 C.F.R. §1.9(e), subsection: ☐ (1) ☐ (2) ☐ (3) ☐ (4). Rights under contract or law have been conveyed to and remain with the organization and are exclusive unless a checkmark is placed here ☐. All other rights belong to small entities as defined in 37 C.F.R. §1.9.

I (we) acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate [37 C.F.R. §1.28(b)].

I (we) declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

A. INDEPENDENT INVENTORS(S) B. INDIVIDUAL NON-INVENTOR(S)

_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date
_____ Name	_____ Signature	_____ Date

C. BUSINESS CONCERN D. NON-PROFIT ORGANIZATION

<u>I-LOR-ONE, LLC</u> Name of Concern or Organization	<u>SUIT 210, 100 N. MAYSVILLE ROAD, MT. STERLING, KY 40353</u> Address
--	---

By <u>GERALD W. INGRAM</u> Signature	<u>Gerald W. Ingram</u> Name of Person Signing
---	---

<u>PRESIDENT</u> Title
---------------------------

Date 6/16/2000

## **ENHANCED HYPERLINK**

This application claims the benefit of U. S. Provisional Application No. 60/\_\_\_\_ filed  
\_\_\_\_\_.

### **BACKGROUND OF THE INVENTION**

#### **Field of the Invention**

This invention relates to the field of hyperlinks and computer applications utilizing hyperlinks, and more specifically, relates to software that enhances hyperlinks.

#### **Description of the Related Art**

The Internet is a fast growing and important communication medium. One integral and familiar aspect of utilizing the Internet is an application called a "browser". This application, by translating HTML and other related programming code into text and graphics, allows virtually anyone interested in using the Internet to use this amazing tool easily and simply. One of the most used and familiar aspects of Internet browsers is the "hyperlink". A hyperlink is simply a string of text or a computer graphic that a user can "click" with the mouse pointer, which will immediately load a new browser page that the hyperlink is programmed to present to the user. Without hyperlinks, the Internet could not be utilized by users with the ease, simplicity and speed that it is today. Hyperlinks are an inextricable part of the Internet browsing experience, and will be for the foreseeable future.

One of the ways that hyperlinks are used is in the form of “advertising banners” for Internet web sites. Hyperlinks are attached to graphical advertisements on virtually all commercial web sites.

The world wide web and banner ads have been intrinsic to the success of each other. Banners are the economic fuel that runs the massive Internet engine. Without banners, the Internet could not afford to function in it’s current form. There are virtually no successful web sites that don’t run banner advertisements as a way to finance their business. Probably no other on-screen element is more prevalent on the Internet as the old stand-by, the banner ad.

As a result of the utilization and success of the hyperlink on the Internet, the hyperlink has become a common navigation tool "off line" as well. Hyperlinks are utilized to navigate through electronic documents and files of all kinds. For example, interactive games, electronic and/or CD-ROM based encyclopedias, and corporate documents just to name a few.

As successful as the hyperlink concept has been, there still are problems. As of today, hyperlinks still only do one thing; if you click on them, they move you to a new location. This is often a problem. Because of the vast complexity of the Internet and/or electronic documents and files, giving users the constant ability to follow hyperlinks from one page to another (while giving users great benefit) often results in users losing their train of thought and getting lost in the billions of possible pages, documents, and/or files available, reducing their ability to extract the information they are looking for. For example, lets say a user has delved deeply into a web site about automobiles. Usually, each page is filled with hyperlinks offering the user other places to go related to cars, some within the current web site, some that will take the user to other related web sites. Now the user is faced with a decision. Which hyperlink to chose? It’s important, because if he selects one that eventually takes him to a place he really wasn’t interested in going, it’s often difficult to get back to

the original page from which he left. While there are some ways to minimize this problem using modern browsers, there is no easy way to prevent the users from losing their train of thought or simply “getting lost” while clicking hyperlinks. This also translates to a waste of time (and money for commercial users) and energy for users, and an often inefficient method of browsing the web.

Anyone that has followed the evolution of the Internet over the last five years knows that the Internet of 1996 bears little resemblance to the Internet of the year 2000. Today’s Internet is bolder, more graphical, faster and largely multimedia based. But what about the hyperlink and related banner ad? Incredibly, the hyperlink of 1996 is pretty much the same one we are looking at here in the year 2000. Hyperlinks have not really changed with the times. Why? There are many reasons, but it certainly isn’t because they are such a successful formula. Even today, with advertisers spending over \$2 billion in 1999 on hyperlink banner ads, the “click-through” rates for banner ads is a lowly 1%. With this kind of performance, there is a need for an improved hyperlink that provides the user with the ability to do more with a hyperlink than click to move to a new page.

### **SUMMARY OF THE INVENTION**

The present invention solves this problem by providing an enhanced hyperlink that provides the user the ability to choose additional interactions with the hyperlink. To solve this problem, an application based on the Java programming platform (allowing the application to run on virtually any computer regardless of operating system) was created. This application is dedicated to making hyperlinks (and thus by default, banner ads) more powerful and useful to Internet, electronic document, or other hyperlink users. This tiny (in terms of computer memory and screen space) application is designed to enable users to keep their train of thought intact while simultaneously

taking advantage of the power of hyperlinks. It accomplishes this by (a.) enabling users to take advantage of a multiple option set related to saving the hyperlink for viewing at a later time and (b.) enabling users to take advantage of a multiple option set related to saving the original web page for viewing at a later time, while following a hyperlink. These two simple concepts actually close the loop for hyperlink usage. With an Enhanced Hyperlink, no matter how a user decides to utilize a hyperlink, Enhanced Hyperlink retains the users original thought process, so the user cannot “get lost”, or forget what started the Internet, electronic document, or other hyperlink journey in the first place. Enhanced Hyperlink enables users to either continue on a particular path on the web, while saving compelling hyperlinks for later use, and/or break away from a particular path on the web to follow a hyperlink, while saving the original path for later use.

The invention provides a method for enhancing a hyperlink and an enhanced hyperlink. First, the presence of a pointer near a hyperlink is detected. Next, a toolbar is displayed when the pointer remains near the hyperlink greater than a predetermined time. The toolbar displayed provides at least one choice for a link enhancement.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

The accompanying drawings incorporated in and forming part of the specification illustrate several aspects of the present invention, and together with the description, serve to explain the principles of the invention. In the drawings:

Figure 1 illustrates an exemplary functional flow chart for the present invention.

Figure 2 illustrates a sample toolbar that may be displayed by the invention of Figure 1.

Figure 3 provides a more detailed exemplary functional flow chart of a first embodiment of the invention of Figure 1.

Figure 4 shows an exemplary flow chart of a second embodiment of the invention illustrated in Figure 1.

Figure 5 illustrates a computer utilizing the hyperlink enhancement operating on a network.

Figure 6 illustrates further details of the computer system illustrated in Figure 5.

Figure 7 provides a function block diagram for a hyperlink enhancement device of the present invention.

Reference will now be made in detail to the present invention examples which are illustrated in the accompanying drawings.

## **DETAILED DESCRIPTION OF THE INVENTION**

### **Definitions**

The following definitions apply to this disclosure and the appended claims:

toolbar - any graphic user interface presented to users as part of an Enhanced Hyperlink.

Examples include, but are not limited to a visual clue and/or menu.

page - any web page, electronic document, file, screen display, or other location a user may access with a hyperlink.

browser - any application that permits a user to view a page containing hyperlinks and to navigate within the page or to another page by utilizing hyperlinks.

cursor - any portion of a graphic user interface that permits the user to interact with a hyperlink.

Pointer - any portion of a graphic user interface that permits the user to interact with a hyperlink.

pointing device - a mouse, track ball, keyboard or other device employed to move a cursor or pointer on a display.

function - any subroutine, executable file, applet, servlet, plug-in (Netscape Navigator), active x-control (Microsoft Internet Explorer), or other executable software and/or script.

### **Overview**

The Enhanced Hyperlink created in computer code written in compiled Java that is represented most commonly, but not limited too, on the users computer screen in a graphical metaphor that is often referred to as a “toolbar”. This toolbar can be graphically represented in a variety of designs, sizes and color schemes without reducing or enhancing the actual functionality of the Enhanced Hyperlink. Further, Enhanced Hyperlink is designed in a manner that allows individual web site designers to change the graphical look and feel of the Enhanced Hyperlink to closely match the colors and theme of their individual web sites, without changing Enhanced Link functionality.

This is to enable an Enhanced Hyperlink to seamlessly integrate into any web site, without detracting from the user experience.

The Enhanced Hyperlink toolbar may be designed to appear when a user “mouses-over” a hyperlink. Alternatively, the toolbar may display with the page or the toolbar may appear when the cursor or pointer is in a predetermined area around the hyperlink. Preferably the toolbar is presented to the user instantly on mouse-over, or after the user keeps the mouse pointer on the hyperlink (or banner ad) for a predetermined time, for example one to three seconds. A short time delay prevents



the browser from becoming jumbled with too much information if the user simply desires to click through on any given hyperlink

Once the toolbar is in view the user is presented with a number of options in addition to the simple “click on the hyperlink and visit a new web page” that is currently in use. Again, the Enhanced Hyperlink allows the user to look at the content later, rather than lose a train of thought. This concept alone is incredibly powerful.

The Enhanced Hyperlink system enables users to:

- “Check the Hyperlink (or Banner AD) out later”. This feature takes a “snapshot” of the hyperlink (including it’s link information), capturing a copy of any hyperlink, including a string, graphic or banner advertisement (may shrink graphics to 35% of their original size) and may then “dock it” (a function that attaches the graphic to the edge of the operating systems desktop) to the edge of the computer screen. This now docked graphic can be moved to any location on the screen the user desires, in order to take full advantage of viewable area. It has the capability to dock several hyperlinks (text, graphics or banners) stacked on top of each other. Each of these docked hyperlinks, since they still contain all of their original hyperlink code information, can be activated and clicked through at any given time by the user, or deleted from the screen at any time. The system also enables the user to automatically delete these docked hyperlinks at time intervals that the user can select.
- “Open the Hyperlinked Page in a window and minimize to the taskbar”. When this feature is selected, the user only sees’ a new item residing in the “taskbar” (a graphical element used by operating systems to let users see which applications are currently

running on the desktop) that references the web page connected to the hyperlink selected. This new item is actually the page the hyperlink is connected too, so selecting this feature will enable users to view the page referenced by the hyperlink at any given time in the session the user chooses, simply by clicking on the icon labeling it (thus making this new page the active, visible page on the desktop) in the taskbar of the operating system in use.

- “Anchor (remember) the current page”. This feature enables users to “anchor” the page they are currently visiting. This means that Enhanced Hyperlink will store the current pages’ address in memory and attach this address to a small graphical element or icon, which will “dock” on the edge of the computer screen, which will be the user’s “anchor”. Then the user can click through on a hyperlink, explore anywhere on the Internet or other hyperlinked media they desire, then when they are ready to return to the page of origination, or anchor page, they simply click on the “anchor” icon to be presented with the page that originally contained the hyperlink that began the exploration.
- “Open the Hyperlinked Page in a new browser window at a predetermined and/or smaller size than the original window”. This feature enables users to click through on a hyperlink, which will present the page referenced by the hyperlink in a new window. This enables users to view the page referenced by the hyperlink while keeping the original web page visible in the background for instant re-visiting.

- Many other enhancements are possible using this tool. One that is illustrated here is the ability to “Save the hyperlinked page for later viewing off-line”. This feature, invisibly to the user, saves the pages referenced by the hyperlink to the users hard drive for later viewing at the users discretion. This is beneficial to any user, but particularly to users with slow connections to a network. This feature enables users to see what the hyperlink would have presented to them while they were on-line, even if the user doesn’t have a live network connection at the time of this later viewing, because the pages are saved to the users’ local hard drive.

With the Enhanced Hyperlink, a simple hyperlink is exponentially more powerful than before. Relevant to a banner ad, without asking the advertiser or the media on which the advertisement is presented to change anything, the Enhanced Hyperlink has made the advertisement stronger and more valid for a potential customer. By not making the user actually lose a train of thought by clicking on a traditional hyperlink or banner ad, this application has increased the likelihood that the hyperlink will be used, or the advertisement will be seen, significantly adding to the value of each link and/or ad. The same holds true for any type of hyperlink.

With an Enhanced Hyperlink, many of the reasons for not utilizing a hyperlink are eliminated. The Enhanced Hyperlink significantly improves and empowers the users browsing experience compared to browsing without an Enhanced Hyperlink.

As discussed above, the enhanced hyperlink may be provided through an application or subroutine running as part of or in concert with a browser. Alternatively, the enhanced hyperlink may be provided as part of a banner ad or other link employing a JAVA applet, servlet, or embedded program.

Figure 1 illustrates an exemplary functional flow chart for an enhanced hyperlink 10. The illustrated functional flow chart begins at Start 100. At this point, a page containing hyperlinks would be displayed for the user. Thereafter, the user selects a hyperlink in block 102 by moving a cursor either “over” or near a hyperlink that the user wishes to select. When the cursor is “over” or near a hyperlink, the program displays a toolbar which illustrates the link enhancements available for that particular hyperlink in block 104. The program may wait a period of time, for example, three seconds, after the pointer is placed “over” or near a selected hyperlink. In some embodiments the toolbar may be displayed as part of or with the hyperlink. Figure 2 illustrates one example of toolbar 20 on a simulated page 12 on display 11. With the tool bar displayed, the user may select which link enhancement they desire to utilize, if any. Decision Block 106 represents the user selection process.

If the user does not desire to use any of the link enhancements, then the user may either click on the hyperlink and follow that link or the user may move the cursor away from the link and the toolbar may be hidden. In either case, the functional flow will terminate at end 134. With the link enhancement graphic user interface displayed in block 104, the user may select one of the link enhancements from the toolbar. Exemplary choices are illustrated in blocks 110, 114, 122 and 126. Decision blocks 106, 108 and 120 reflect the choices that a user may make in selecting a link enhancement. Decision block 106 represents the user wanting to utilize one of the link enhancements to interact with the hyperlink. Decision block 108 represents the user’s desire to follow the selected link and decision block 120 illustrates a user’s desire to follow the selected link at a later time.

When the user desires to follow the selected link in decision block 108, two link enhancements are shown to provide examples of these type of link enhancements . The one enhancement may be activated when the user selects “anchor page” represented by block 110. The

current page is set as an “anchor page” and the selected link followed. Consequently, the page associated with the selected link is displayed in block 112.

An anchor page is a clickable item placed on the tool bar, the desk top or some other convenient location. This clickable item is associated with or has as one of its properties, the uniform resource locator (URL) of the page that the user was viewing, i.e. the page prior to following the selected link. This “anchor page” provides an easy one click method for the user to return to this page. Consequently, the user is saved both the time and effort of clicking the back button a sufficient number of times to return the user to this page after following the selected link or from having to remember the URL of the page that they were on prior to following a selected link.

The second illustrated link enhancement may be accessed by the user selecting the open a new window enhancement in block 114. This selection causes a new browser window to be opened and display the page associated with the selected link in the new browser window. Blocks 114 and 116 perform in essence the same functions that are performed when the user places the cursor over a hyperlink, "right clicks" the hyperlink and then selects and clicks on the open new window command from the menu displayed (Netscape Navigator running on Windows 98). The advantage provided by the present invention is that the user can open the new window with just a single click.

Decision block 120 represents the user's desire to return to the selected link at a later time without losing their current train of thought or place on the current page. Three exemplary enhancements are presented for illustration in Blocks 122, 126 and 130. For example, the user may select open new window minimized from the exemplary toolbar 20 displayed in Block 104. This selection in Block 122 causes a new browser window to be opened with the page associated with the selected link displayed in that browser window. When this browser window is opened in block 124,

the window automatically is minimized so that the user may continue to view the current page with a minimum of distraction. The minimized window, however, enables the user to quickly and easily access the selected hyperlink with a single click at a later time. While current browsers enable the user to perform a similar function by right clicking on the link and then clicking on the “open in new window” menu selection to display the selected page in a new browser window, however, the user would then have to manually minimize this browser window. Thus, the present application enables the user to accomplish in a single click what might otherwise take three or more user actions. The more user actions taken by the user, the greater the distraction from viewing the current page.

The second illustrated enhancement is the “check out later” selection illustrated in block 126.

When the user makes this selection, the enhancement captures the graphic and/or text and link data associated with that hypertext link. The graphic and/or text may then be reduced to a smaller size.

A clickable item is created and is associated with or has as its properties, the captured link data including the uniform resource locator (URL) of the page associated with the selected link.

Typically, this image is approximately the size of one of the standard icons displayed on a Windows-style desktop. The program may also position this link “snapshot” at the edge of the screen where it will be out of the way of the user. This position is designed to minimize the interference with the page currently displayed. When the user desires to access the page represented by the snapshot, the user would then click on the snapshot which would open the appropriate application to view the page associated with the selected hypertext link.

The third illustrated alternative is one where the user selects the “view later off line” link enhancement. When the user makes this selection in block 130, the enhancement makes copies of the page(s) associated with the selected link and then saves them to hard drive or other storage

location for later viewing off line. In essence, the program downloads the page or pages associated with the selected link in the background while the user continues to view the current page and/or follow additional links associated with the current page. The user may be able to select the number or levels of pages to be downloaded.

The toolbar selections represented by blocks 110, 114, 122, 126 and 130 provide five examples of hyperlink enhancements. The addition and creation of additional link enhancements are believed to be within the ordinary scope of the art.

The hyperlink enhancement function may operate on a computer 30 (Fig. 5). Computer 30 may be a personal computer (PC) or a server. Typically, computer 30 has a display 11, keyboard 31, and pointing device 32 connected to CPU 34. Computer 30 may be connected to a network 60 that contains hyperlinked pages or may be a stand-alone system.

The CPU 34 typically contains a microprocessor 36, and RAM 38 (Fig. 6). Some CPU's also have some form of mass storage 40, for example a hard drive, CDROM, or DVD. The computer 30 becomes a hyperlink enhancement device 10 when the hyperlink enhancement function is executed.

This device 10 has a hyperlink detector 70 and a display system 71. The display system 71 may have a display controller 72 and a display 11. The hyperlink detector 70 may be formed from CPU 34 or microprocessor 36 running a hyperlink enhancement function 10. When the detector 70 detects the presence of a hyperlink near the location provided by cursor 74, the detector 70 sends a toolbar display signal 73 to the display controller 72. Upon receipt of a toolbar display signal 73 the display controller 72 sends a signal to the display 11 to display toolbar 20. The displayed toolbar containing at least one hyperlink enhancement that the user may select. Cursor 74 may be a keyboard 31, a mouse, track ball, or other pointing device 32.

## **Browser Application Interface**

Figure 3 illustrates an exemplary functional flow chart for an enhanced hyperlink 10' that could be utilized as a browser function. For example, a plug-in (Netscape Navigator) or activate x-control (Microsoft Internet Explorer). This functional flow chart was intended for a programmer working in the JAVA programming language. It is expected that based on this flow chart and the specification that a programmer of ordinary skill in the art would be able to create a similar program using other programming languages and/or programming for other hyperlink environments outside that experienced on the Internet. Examples of such hyperlink environments include, but are not limited to, Folio Views and other text-based hyperlinked document retrieval systems utilized in storing and accessing large volumes of text such as encyclopedias, magazine archives, and/or other text archives whether stored on hard drives, CD-Roms, DVDs or other storage media.

The functional flow chart illustrated in Figure 3 begins at block 600 with the browser in operation. The enhanced hyperlink 10' illustrated overrides the mouse-over event for the hyperlink object in block 602. A typical mouse-over event, which is part of the typical browser interface, is when the cursor changes from one shape to a second shape when the cursor is placed over a hyperlink. For example, if the cursor was an arrow, in normal circumstances, this could change to a hand when the cursor was placed over a hyperlink. Alternatively, the enhanced hyperlink 10' may just detect the presence of the hyperlink based on the mouse-over event and not override this event.

In the illustrated implementation, the program activates if the user left the cursor in place for at a set period of time, illustrated by block 604. Alternatively, the program may activate anytime the cursor is over a hyperlink. Upon detecting this occurrence, the program may override the typical



(standard pre-programmed) mouse-over event with the enhanced hyperlink action in block 608.

Alternatively, the enhanced hyperlink 10' may just detect the presence of the hyperlink based on the mouse-over event and not override this event. Thereafter, the toolbar selected by the programmer is displayed. The toolbar provides one method for the user to select the particular link enhancement that the user desires to utilize. The user may decide not to utilize any of the enhancements represented by blocks 610, 620, 630 and 640 and the enhanced hyperlink 10' would end as illustrated by block 606.

When the user decides to select one of the enhanced link features, flow moves through that function's starting block (610 for Open in a New Window, 620 for Open in New Window Minimized, 630 for Check it Later, and 640 for Anchor Current Page). An exemplary toolbar is illustrated in Figure 2. Toolbar 20 is illustrated overlying advertisement 18 in Figure 2. It is expected that it would be within the ordinary skill in the art for a programmer to design an alternative toolbar to permit the user to select the particular link enhancement that they desired to use. Figure 3 illustrates four exemplary functions that may be utilized as link enhancements. Block 610 represents the user selecting the "Open in New Window" function. Thereafter, the illustrated link enhancement uses Application Programming Interface (API) calls to open a new browser window and size it or place it so that it does not completely obliterate the view of the original browser window as illustrated in blocks 612 and 614.

A second function entitled "Open in new window Minimized" begins in block 620. The illustrated link enhancement uses API calls to open a new browser window in the minimized state (so it shows up as an icon or is displayed on the system taskbar or toolbar).

The third illustrated function begins in Block 630. The “check it later” function in this implementation utilizes a satellite program to manage the hyperlinks that the user desires to save for later access. First, the function checks to see if the Check\_Later satellite function is running. If the satellite function has not yet started, then it is initiated. Thereafter, the contents of the hyperlink tag are passed to the Check\_Later satellite via Object Linking and Embedding (OLE) (or some other inter-process communication scheme) in block 632. When the Check\_Later satellite receives a hyperlink tag for the first time, the program creates a window to hold Check\_Later items in Block 634. Thereafter, the satellite may determine if the contents of the hyperlink tag contains art and/or text in decision 635. If the item is a text tag, the program flow moves to block 638 where a clickable label is created within the window created in block 634. If the item is an image tag, the program flow moves to block 636 where a clickable image is created within the window created in block 634. The information passed in provides everything necessary for the satellite to set up a click event handler in block 639 which would launch the appropriate link in a new browser window when the user clicked on the saved hyperlink.

The function titled “Anchor Current Page” begins in block 640. In this implementation, the satellite program approach has also been utilized. For this function, the URL of the current page must be passed to the satellite as shown in block 642. This is all that the satellite needs to display an Anchor icon on the desktop in block 644 and to set up a click event handler which would reopen the current page in a new browser window when the user clicked on the anchor icon as illustrated in block 646.

Figure 3 illustrates four exemplary link enhancements to illustrate various link enhancements.

It is believed that other link enhancements based on this disclosure and the flow charts could be easily produced.

### **JAVA Virtual Machine Application Programming Interface**

Figure 4 illustrates a second embodiment of the hyperlink enhancement 10", which enables a hyperlink to have the enhancements discussed above for a browser without the user having to have the function discussed above running with or as part of their browser. Block 500 represents the user making a call for a particular page. Thereafter, the main function may be served from the hyperlink source site in block 502. Alternatively, the function may be served from the page site in block 502.

Thereafter, in block 504, the function would be downloaded to the users' computer and the page containing the hyperlink would be displayed in block 506. This page may contain either a banner ad with an enhanced hyperlink or other enhanced hyperlink. In block 508 the user is given the opportunity to select which link enhancement they desired as discussed above in Figure 3 at block 608.

When the user clicks on the selected hyperlink in block 510, the browser performs its normal function and opens the page. However, if the user selects one of the link enhancements represented by blocks 520, 530, 540, or 550, then the particular link enhancement associated with that selection is executed.

If the user selects the "check out later" link enhancement in block 520 then the function in block 522 passes as parameters the uniform resource locator (URL) of the selected link's image, if an image is displayed, and the URL of the selected hyperlink to a function. For example, this function

may be a JAVA servlet, applet, or script. In block 534, the function provided by the server outputs Java Script and HTML code that opens a new window containing the graphics and/or text and hyperlink. Preferably, the function preserves the “state” information, which prevents opening a new window each time this particular enhancement is selected. A follow on “check out later” function call places the graphics and/or text and hyperlink of the selected link in the existing “check out later” window.

If the user selects “anchor this page” the associated function would be called in block 530. This function passes as parameters the URL of the “anchor image”, which may be supplied by the developer or selected by the user, and the URL of the current page to the function in block 534 as discussed above.

If the user selects “open a new window minimized” then the associated function would be called at block 540. The function passes as parameters in block 542 the URL of the selected link to a server side command in block 544. This command opens a minimized browser window of the selected hyperlink on the users computer.

If the user selects the link enhancement titled “open new window” then the associated function in block 550 is called. Thereafter the function passes as parameters the URL of the selected hyperlink to a server side command. In block 554, the server side command opens a fixed sized browser window with the selected hyperlink. The size of this window may be preprogrammed by the programmer or may be selectable by the user as part of the set up routine.

## **Other Enhancements**

This invention provides a platform for many enhancements to the current hyperlink. Several potential enhancements are outlined below. It is expected that these and other hyperlink enhancements could be programmed by a programmer of ordinary skill in the art given this disclosure.

- “Capture the Hyperlinked Pages for later viewing”. This feature, invisibly to the user, saves the pages referenced by the hyperlink to the users hard drive for later viewing at the users discretion. This is beneficial to any user, but particularly to users with slow connections to the Internet. This feature enables users to see what the hyperlink would have presented to them, even if the user doesn’t have a live Internet connection at the time of this later viewing, because the pages are saved to the users’ local hard drive.
- “E-mail more information”. This feature, would prompt for e-mail address and allow advertisers to send more information to users who express interest in this way. This way a user can gather more information without necessarily having to follow the link.
- “Statistical Information”. This feature, would allow advertisers to track statistics related to how, how much, when and under what circumstances their advertisements were being utilized.
- “Sweepstakes Information”. This feature would allow advertisers to add “sweepstake” entry information to the “toolbar“ enabling users to enter the sweepstakes without losing their train of thought.

In summary, numerous benefits have been described with results from implying the concepts of the invention. The foregoing description of the preferred embodiment with the invention has been prepared for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Obvious modifications and variations are possible in light of the above teaching. The embodiment was chosen and described in order to best illustrate the principals of its invention in its practical application to thereby enable one of ordinary skill to best utilize the invention of various embodiments and with various modifications as they are suited to the particular to which is contemplated. It is intended that the scope of invention be defined by the claims appended hereto.

## CLAIMS

We claim:

1. A method for enhancing a hyperlink, the method comprising:  
  
displaying a toolbar if a pointer is proximate the hyperlink for a time period which exceeds a predetermined time, the toolbar displaying at least one link enhancement;  
  
in response to a users selection of a selected link enhancement, performing the selected link enhancement.
2. The method of claim 1, wherein the at least one link enhancement displayed comprises at least one of: open in new window, open in new window minimized, check it later, or anchor current Page.
3. The method of claim 1 wherein the step of performing the selected link enhancement comprises:  
  
opening the page associated with the selected link in a new browser window.
4. The method of claim 3 wherein the step of performing the selected link enhancement further comprises:  
  
minimizing the new browser window without any user action.

5. The method of claim 1 wherein the step of performing the selected link enhancement comprises:

creating a clickable item in a window;

associating the selected hyperlink with the clickable item; and

in response to a click event, proximate the clickable item, opening a browser window with a URL of the selected hyperlink.

6. The method of claim 5, wherein the step of creating a clickable item creates a clickable label.

7. The method of claim 6, wherein the step of creating a clickable item creates a clickable image.

8. The method of claim 1 wherein the step of performing the selected link enhancement comprises:

creating clickable item in a window;

associating the hyperlink at the current page with the clickable item;

opening the page associated with the selected hyperlink; and

in response to a click event proximate the clickable item, opening a browser window with a URL of the hyperlink associated with the clickable item.



9. The method of claim 8, wherein the step of creating a clickable item creates a clickable label.

10. The method of claim 8, wherein the step of creating a clickable item creates a clickable image.

11. A hyperlink enhancement system comprising:

detecting means for detecting the presence of a pointer proximate a hyperlink;

display means for displaying a toolbar if the pointer remains proximate the hyperlink greater than a predetermined time, the menu containing at least one link enhancement; and

calling means for calling the link enhancement in response to a user's selection.

12. The hyperlink enhancement system of claim 11, wherein one of the at least one link enhancement comprises at least one of: open in new window, open in new window minimized, check it latter; or anchor current page.

13. The hyperlink enhancement system of claim 11 wherein the selected link enhancement comprises: opening means for opening the page associated with the selected link in a new browser window.

14. The hyperlink enhancement system of claim 13 wherein the selected link enhancement further comprises: minimizing means for minimizing the new browser window without any user action.

15. The hyperlink enhancement system of claim 11 wherein the selected link enhancement comprises:

creating means for creating a clickable item in a window;

associating means for associating the selected hyperlink with the clickable item; and

opening means for opening a browser window with a URL of the selected hyperlink in response to a click event proximate the clickable item.

16. The hyperlink enhancement of claim 15, where in the clickable item is a clickable label.

17. The hyperlink enhancement of claim 15, where in the clickable item is a clickable image.

18. The hyperlink enhancement system of claim 11 wherein the selected link enhancement comprises:

creating means for creating a clickable item in a window;

associating means for associating the hyperlink of the current page with the clickable item;

opening means for opening a browser window with a URL of the hyperlink of the current page in response to a click event proximate the clickable item.

19. A hyperlink enhancement system comprising:

displaying means for displaying a toolbar when the presence of the pointer is detected, the toolbar containing at least one link enhancement; and

calling means for calling the link enhancement in response to a user's selection.

20. A method for enhancing an hyperlink, the method comprising:

displaying a toolbar after a presence of a pointer is detected, the toolbar displaying at least one link enhancement;

in response to a users selection, performing the selected link enhancement.

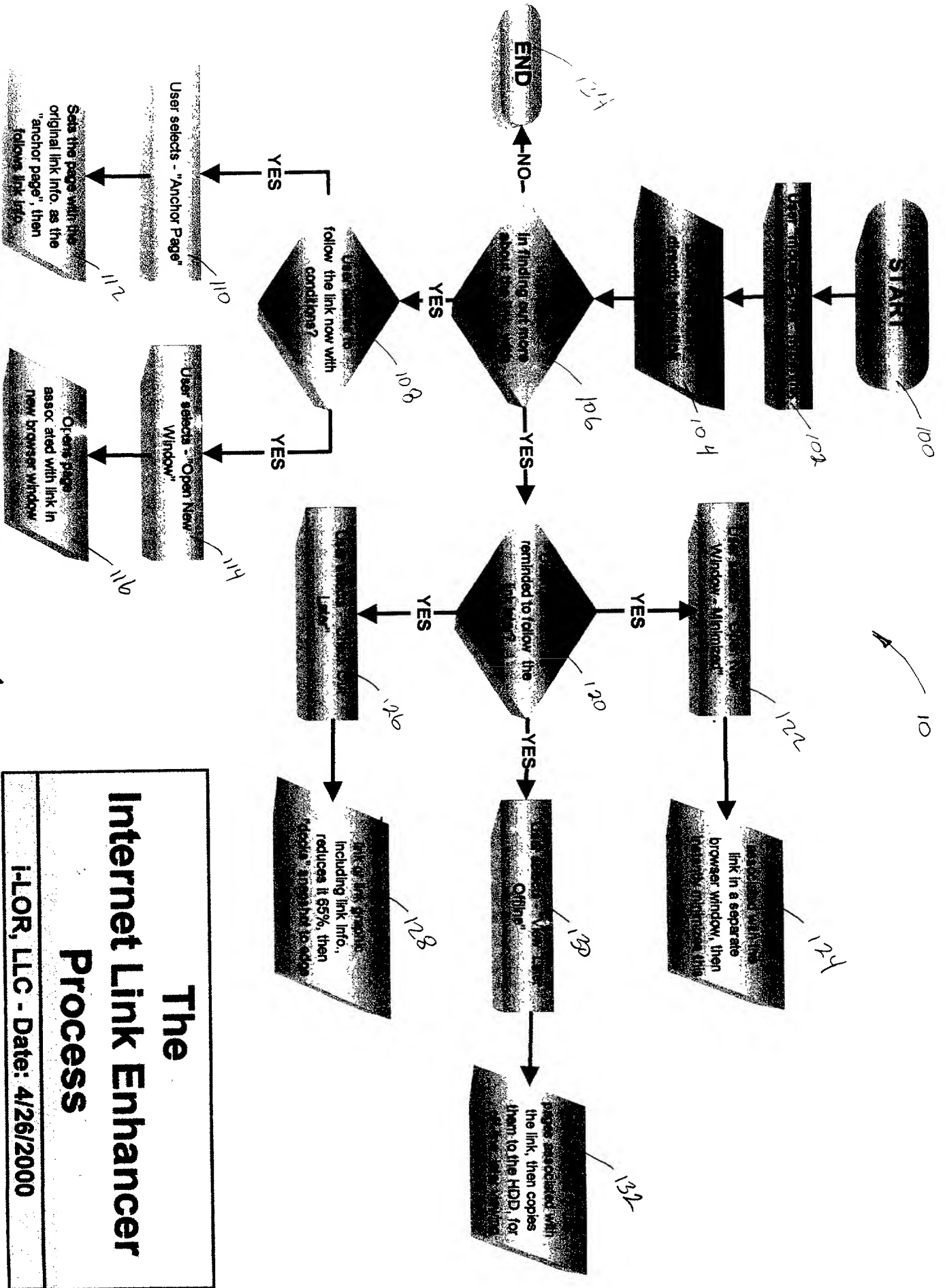
21. A hyperlink enhancement system comprising:

a hyperlink detector that receives a position signal from a cursor; and

a display system, the display system having a display, the display configured to display a page, the display configured to display a toolbar upon the display system receiving a toolbar display signal from the hyperlink detector, the displayed toolbar comprising at least one hyperlink enhancement for selection by a user.

## **ABSTRACT**

An enhanced hyperlink and method for providing an enhanced hyperlinked are provided. This invention permits the user to interact with a hyperlink in a variety of ways without necessarily having to open and/or follow the hyperlink. This is accomplished by detecting the presence of a cursor near a hyperlink. When the cursor has remained near the hyperlink for a predetermined time period, a toolbar is displayed containing one or more link enhancements that the user may select. In response to the users' selection of a particular link enhancement, then that link enhancement function would be performed without requiring the any further action. Examples of link enhancement include, but are not limited to, opening the selected link in a new window; opening the selected link in a new window with that window minimized; creating a clickable graphic/text string, and/or icon that would enable the user to return to the selected link at a later time; or anchor the current page by creating an icon or other clickable item that would return the user to the current page; or view off-line which would, in the background download the files associated with the selected link to a memory device for viewing later off-line.



# The Internet Link Enhancer Process

©LOR, LLC - Date: 4/26/2000

09:54/10:01 AM 03/26/00

File Edit View Favorites Tools Help Window Help

Flash 100% Body Text 2 Arial 10 B / I

File View Local Help  
Back Refresh Home Search Favorites History Mail Print  
Address: <http://www.weather.com/>

# weather.com



Get the latest weather information for any city or US zip code.

Any City or US Zip

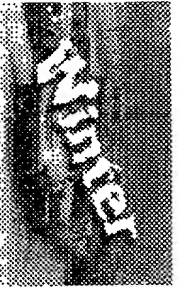
Weather information

Weather and

Weather and

## BREAKING WEATHER

Featured the week: Local for Seattle, WA. Search for any location.



**StormWatch**  
Winter storm warnings are posted for parts of Long Island and SE New England as a powerhouse storm approaches  
Forecast Summary  
Audio/Video Forecasts  
SEE Winter 2000

## TOP STORIES

Snow piles up in Midwest gets a cold shock  
Winter storm may black out

## Current U.S. Weather

Golf - Current Winds  
Golf - Lightning Strikes

**Advertisement Here**  
Contact me later  
Send to contacts  
Click and drag to remove this ad  
Expand all view  
Feedback  
Hide controls

Internet

035714226.064.000

11

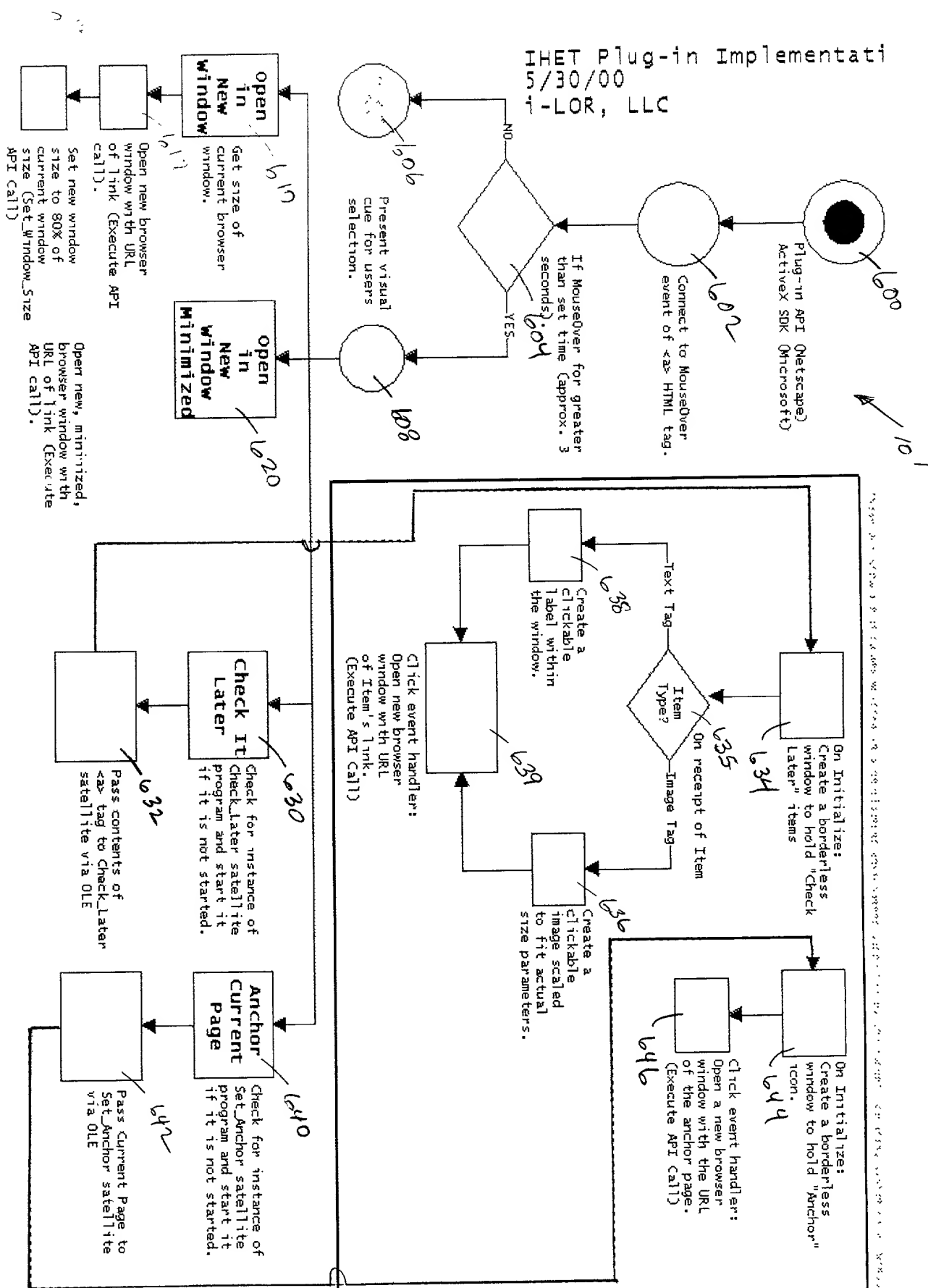
12

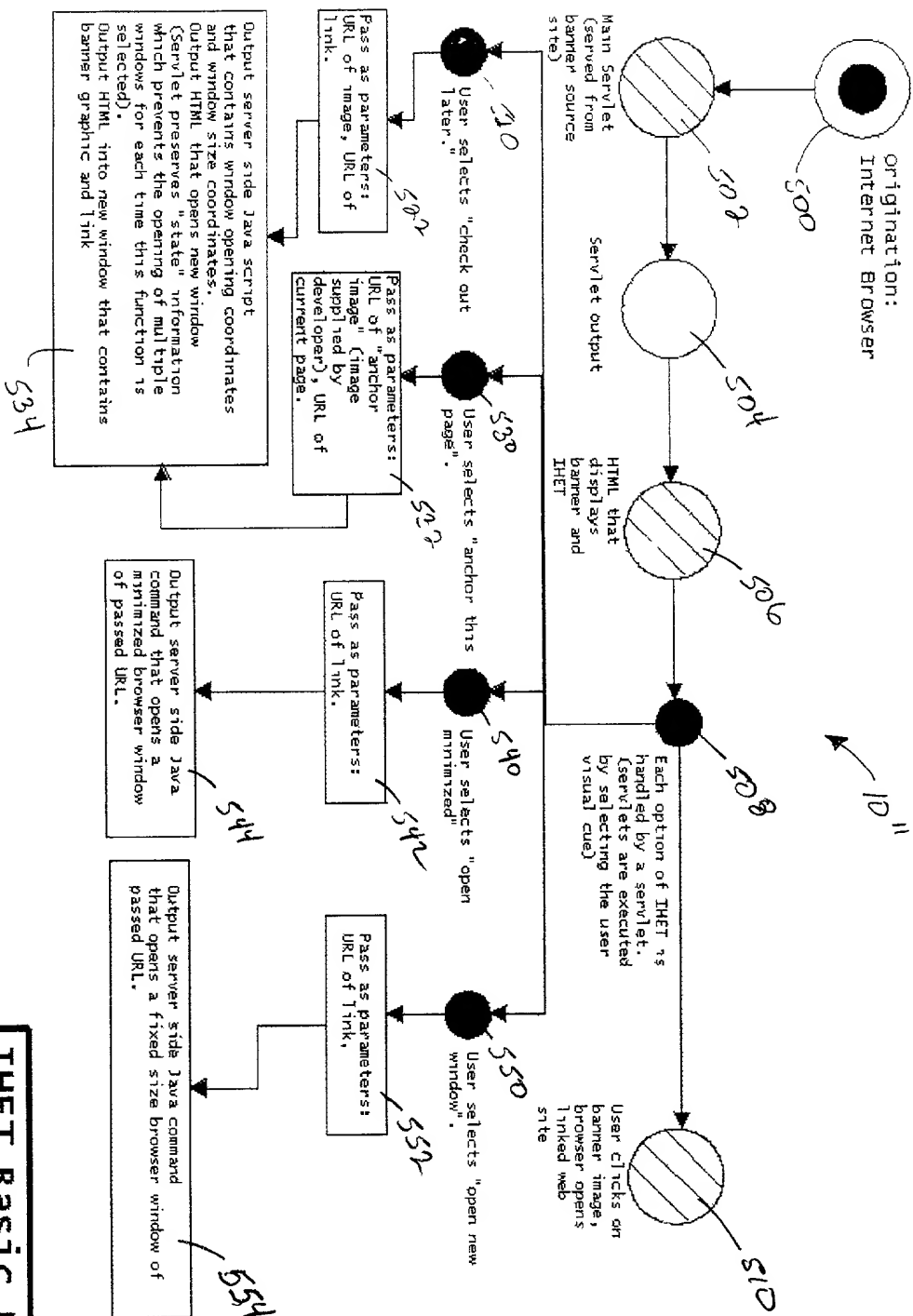
20

13

22

IHET Plug-in Implementation  
5/30/00  
i-LOR, LLC





**IHET Basic Process**  
**Browser**  
**1-LOR, LLC**  
**5/30/00**

FIG. 4



Variable	Unit	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100																																																																																																																																																																																						
Population	millions	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	39.0	39.1	39.2

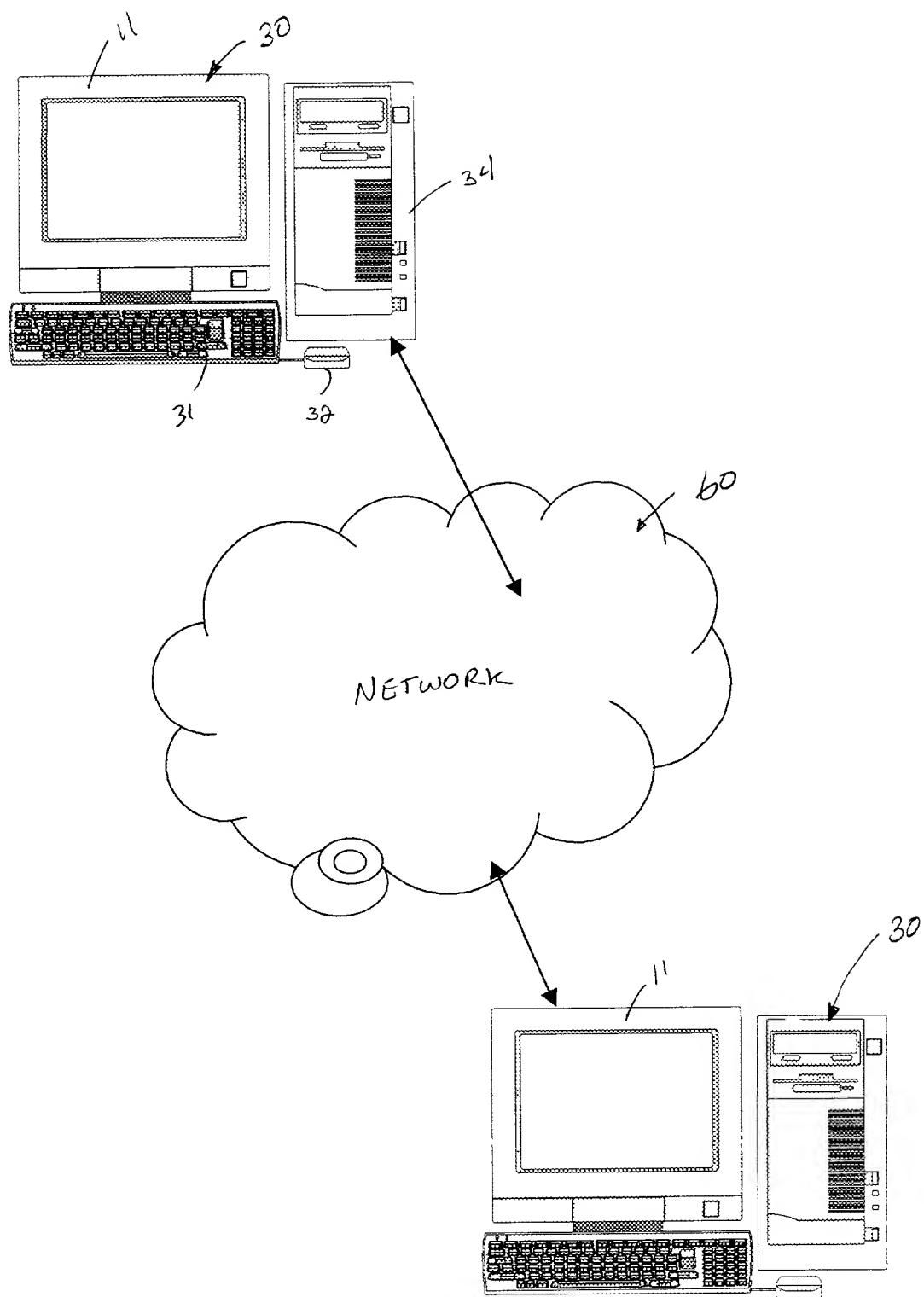


FIG. 5

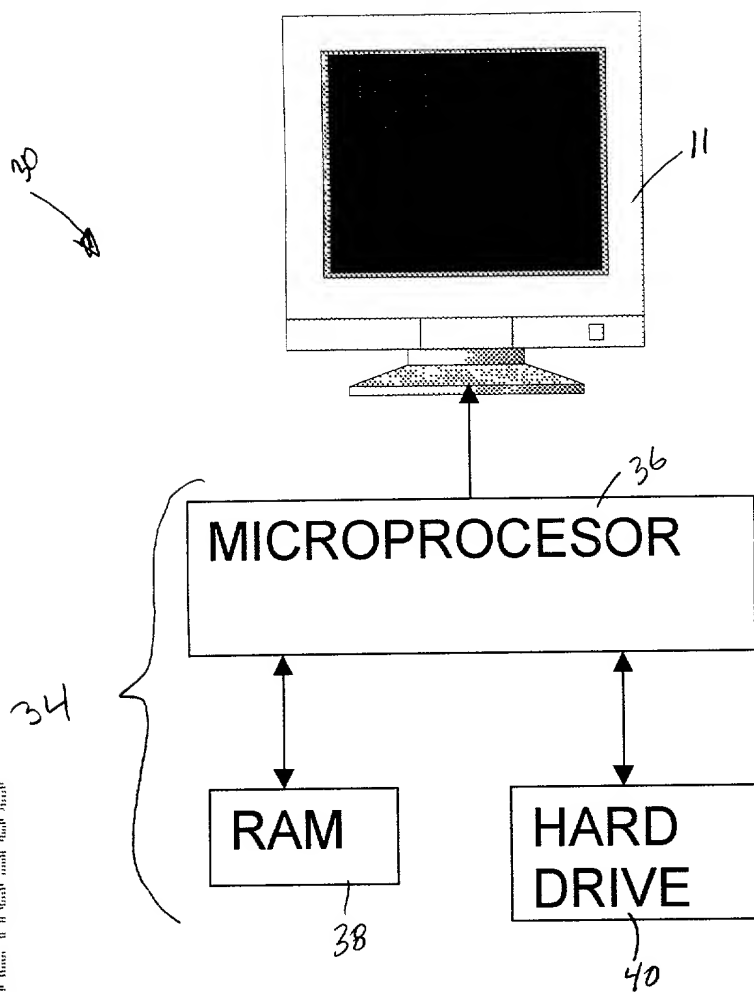


Fig. 6

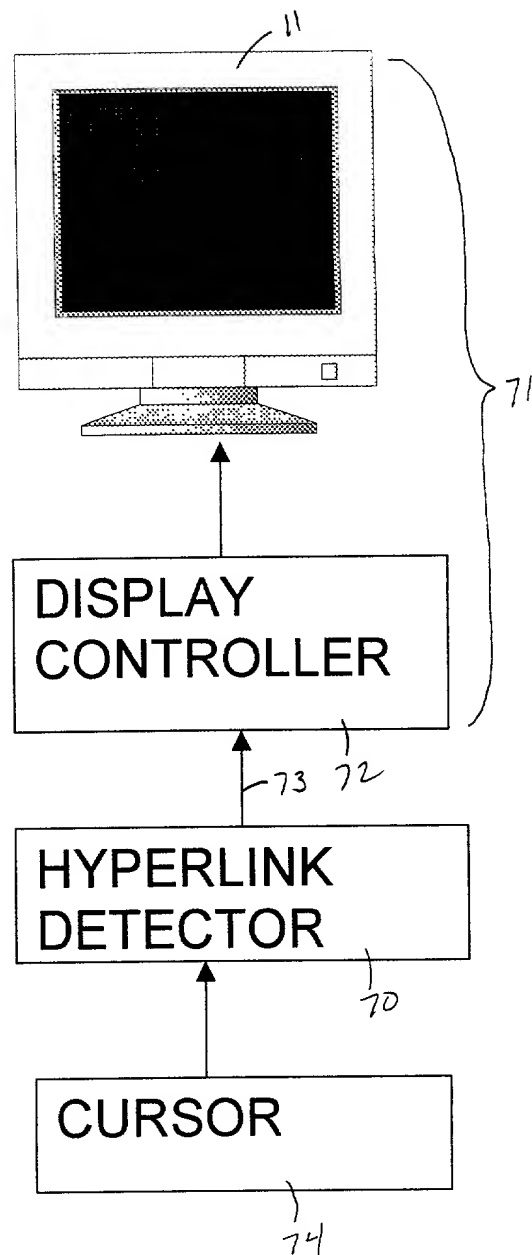


Fig. 7

Docket No. 023460-00001

ARENT FOX KINTNER PLOTKIN &amp; KAHN, PLLC

Nikaido, Marmelstein, Murray &amp; Oram Intellectual Property Group

**Declaration For U.S. Patent Application**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

(Insert Title)

ENHANCED

HYPERLINK

the specification of which is attached hereto unless the following box is checked:

☐ was filed on \_\_\_\_\_ as PCT International Application  
 Number \_\_\_\_\_ and was amended on \_\_\_\_\_  
 and/or was filed on \_\_\_\_\_ as United States Application  
 Number \_\_\_\_\_ and was amended on \_\_\_\_\_

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International Application having a filing date before that of the application(s) for which priority is claimed:

(List prior foreign applications. See note A on back of this page)

(Number)

(Country)

(Day/Month/Year Filed)

(Number)

(Country)

(Day/Month/Year Filed)

(Number)

(Country)

(Day/Month/Year Filed)

Priority Claimed

☐ Yes ☐ No☐ Yes ☐ No☐ Yes ☐ No

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

(Application Number)

(Filing Date)

(Application Number)

(Filing Date)

(See Note B on back of this page)

☐ See attached list for additional prior foreign or provisional applications.

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s) or §365(c) of any PCT International application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) (U.S. or PCT) in the manner provided by the first paragraph of 35, U.S.C. §112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(List prior U.S. Applications or PCT International applications designating the U.S.)

(Application Serial No.)

(Filing Date)

(Status) (patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status) (patented, pending, abandoned)

And I hereby appoint as principal attorneys: Robert B. Murray, Reg. No. 22,980; Charles M. Marmelstein, Reg. No. 25,895; George E. Oram, Jr., Reg. No. 27,931; Douglas H. Goldbush, Reg. No. 33,125; David T. Nikaido, Reg. No. 22,663; Monica Chin Kitts, Reg. No. 36,105; Richard J. Berman, Reg. No. 39,107; King L. Wong, Reg. No. 37,500; James A. Poulos, III, Reg. No. 31,714; Murat Ozgu, Reg. No. 44,275; Bradley D. Goldizen, Reg. No. 43,637; N. Alexander Nolte, Reg. No. 45,689; Robert K. Carpenter, Reg. No. 34,794; Gregory B. Kang Reg. No. 45,273; and Rustan J. Hill Reg. No. 37,351.

Please direct all communications to the following address:

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W., Suite 600  
Washington, D.C. 20036-5339  
Telephone No. (202) 857-6000; Facsimile No. (202) 638-4810

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(See Note C on back of this page)

Full name of sole or first inventor Gerald W. IngramInventor's signature Gerald W. IngramResidence Mt. Sterling, KY 40353Citizenship United StatesPost Office Address I-Lor, Suite 310, 100 N. Maysville Rd., Mt. Sterling, KY 40353

Date

6/16/2000

Full name of second joint inventor, if any Steve MansfieldInventor's signature Steve MansfieldResidence Mt. Sterling, KY 40353Citizenship United StatesPost Office Address I-Lor, Suite 310, 100 N. Maysville Rd., Mt. Sterling, KY 40353

Date

6/16/2000

Full name of third joint inventor, if any

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of fourth joint inventor, if any**

**Inventor's signature**

### Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of fifth joint inventor, if any**

**Inventor's signature**

### Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of sixth joint inventor, if any**

**Inventor's signature**

### Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of seventh joint inventor, if any**

**Inventor's signature**

### Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of eighth joint inventor, if any**

**Inventor's signature**

## Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**

**Full name of ninth joint inventor, if any**

**Inventor's signature**

### Residence

Date \_\_\_\_\_

## Citizenship

**Post Office Address**